AMENDMENTS TO THE CLAIMS

1. (Original) A biointerface membrane suitable for implantation in a soft tissue of an animal, the membrane comprising:

a first domain, wherein the first domain supports tissue ingrowth and interferes with barrier cell layer formation, wherein the first domain comprises a plurality of interconnected cavities and a solid portion, and wherein a substantial number of the interconnected cavities are greater than or equal to about 90 microns in at least one dimension; and

a second domain, wherein the second domain allows passage of an analyte, and wherein the second domain is resistant to cellular attachment and is impermeable to cells and cell processes.

2. (Original) The biointerface membrane according to claim 1, wherein the first domain comprises a depth of greater than one cavity in three dimensions substantially throughout an entirety of the first domain.

3. (Original) The biointerface membrane according to claim 1, wherein the cavities and a plurality of cavity interconnections are formed in a plurality of layers having different cavity dimensions.

4. (Original) The biointerface membrane according to claim 1, wherein a substantial number of the cavities are greater than or equal to about 160 microns in at least one dimension.

5. (Original) The biointerface membrane according to claim 1, wherein a substantial number of the cavities are greater than or equal to about 220 microns in at least one dimension.

6. (Original) The biointerface membrane according to claim 1, wherein a substantial number of the cavities are greater than or equal to about 285 microns in at least one dimension.

7. (Original) The biointerface membrane according to claim 1, wherein a substantial number of the cavities are greater than or equal to about 350 microns in at least one dimension.

8. (Original) The biointerface membrane according to claim 1, wherein a substantial number of the cavities are greater than or equal to about 370 microns in at least one dimension.

9. (Original) The biointerface membrane according to claim 1, wherein a substantial number of the cavities are from about 90 microns to about 370 microns in at least one dimension.

10. (Original) The biointerface membrane according to claim 1, wherein a substantial number of the cavities are from about 220 microns to about 350 microns in at least one dimension.

11. (Original) The biointerface membrane according to claim 1, wherein a substantial number of the cavities are from about 220 microns to about 285 microns in at least one dimension.

12. (Original) The biointerface membrane according to claim 1, wherein a substantial number of the cavities are less than or equal to about 1000 microns in a longest dimension.

13. (Original) The biointerface membrane according to claim 1, wherein a substantial number of the cavities are less than or equal to about 500 microns in a longest dimension.

14. (Original) The biointerface membrane according to claim 1, wherein a substantial number of shortest dimensions of the solid portion are greater than or equal to about 5 microns and wherein a substantial number of longest dimensions of the solid portion are greater than or equal to about 2000 microns.

15. (Original) The biointerface membrane according to claim 1, wherein a substantial number of shortest dimensions of the solid portion are greater than or equal to about 10 microns and wherein a substantial number of longest dimensions of the solid portion are greater than or equal to about 1000 microns.

16. (Original) The biointerface membrane according to claim 1, wherein a substantial number of shortest dimensions of the solid portion are greater than or equal to about 10 microns and wherein a substantial number of longest dimensions of the solid portion are greater than or equal to about 400 microns.

17. (Original) The biointerface membrane according to claim 1, wherein the solid portion comprises silicone.

18. (Original) The biointerface membrane according to claim 1, wherein the solid portion comprises polyurethane.

19. (Original) The biointerface membrane according to claim 1, wherein the solid portion comprises a block copolymer.

20. (Original) The biointerface membrane according to claim 1, wherein the solid portion comprises a material selected from the group consisting of polytetrafluoroethylene, polyethylene-co-tetrafluoroethylene, polyolefin, polyester, and polycarbonate.

21. (Original) The biointerface membrane according to claim 1, wherein the second domain comprises a biostable material.

22. (Original) The biointerface membrane according to claim 21, wherein the biostable material comprises polyurethane and a hydrophilic polymer.

23. (Original) The biointerface membrane according to claim 21, wherein the biostable material comprises polyurethane and polyvinylpyrrolidone.

24. (Original) The biointerface membrane according to claim 1, wherein the second domain comprises greater than or equal to about 5 wt. % polyurethane and greater than or equal to about 45 wt. % polyvinylpyrrolidone.

25. (Original) The biointerface membrane according to claim 24, wherein the second domain comprises greater than or equal to about 20 wt. % polyurethane and greater than or equal to about 35 wt. % polyvinylpyrrolidone.

26. (Original) The biointerface membrane according to claim 25, wherein the second domain comprises polyurethane and about 27 wt. % polyvinylpyrrolidone.

27. (Original) The biointerface membrane according to claim 1, wherein the second domain comprises a silicone copolymer.

28. (Original) The biointerface membrane according to claim 1, wherein the analyte comprises glucose.

29-250. (Canceled)